

We claim:

1. A nucleic acid isolated from a plant, which encodes a p-glycoprotein that is inducible by exposure of the
5 plant to NPPB.

2. The isolated nucleic acid of claim 1, which is preferentially expressed in plant roots upon exposure of the plant to NPPB.
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3. The isolated nucleic acid of claim 1, wherein the plant is selected from the group consisting of *Brassica napus* and *Arabidopsis thaliana* and is 3850-4150 nucleotides long.
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4. The isolated nucleic acid of claim 1, which has the restriction sites shown in Figure 4 for at least three enzymes.
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5. The isolated nucleic acid of claim 4, which encodes a polypeptide having SEQ ID NO:2.
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6. The isolated nucleic acid of claim 5, which is a cDNA comprising a coding region selected from the group consisting of SEQ ID NO:1 and SEQ ID NO:10.
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7. An isolated protein, which is a product of expression of part or all of the isolated nucleic acid molecule of claim 1.

8. Antibodies immunologically specific for the protein of claim 7.

9. A expression cassette, which comprises a *plPAC* gene coding sequence operably linked to a promoter.
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10. The expression cassette of claim 9, which comprises a *plPAC* gene from *Arabidopsis thaliana*.

10 11. The expression cassette of claim 10, in which the promoter is the cauliflower mosaic virus 35S promoter.

15 12. The expression cassette of claim 10, in which the *plPAC* gene is part or all of SEQ ID NO:1 or SEQ ID NO:10.

13. A vector comprising the expression cassette of
claim 9.

20 14. The vector of claim 13, which is comprised of an *Agrobacterium* binary vector selected from the group consisting of pPZP211 and pCGN7366.

25 15. A method for producing a plant with enhanced resistance to xenobiotic compounds by transforming *in vitro* the plant with the expression cassette of claim 9.

16. The method of claim 15, wherein the transformation step further uses the vector of claim 13.

30 17. A transgenic plant produced by the method of

claim 15.

18. A reproductive unit form the transgenic plant
of claim 17.

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19. A cell from the transgenic plant of claim 17.

20. A recombinant DNA molecule comprising the
nucleic acid molecule of claim 1, operably linked to a vector
10 for transforming cells.

21. A cell transformed with the recombinant DNA
molecule of claim 20.

15 22. The cell of claim 21, selected from the group
consisting of bacterial cells, yeast cells and plant cells.

23. A transgenic plant regenerated from the
transformed cell of claim 22.

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24. An isolated nucleic acid molecule of at least
20 nucleotides in length having a sequence selected from the
group consisting of:

- a) SEQ ID NO:1 and SEQ ID NO:10;
- b) a nucleic acid sequence that is at least about
60% homologous to the coding regions of SEQ ID NO:1 or SEQ ID
NO:10;
- c) a sequence hybridizing with SEQ ID NO:1 or SEQ
ID NO:10 at moderate stringency;
- d) a sequence encoding part or all of a polypeptide

having SEQ ID NO:2;

e) a sequence encoding an amino acid sequence that
is at least about 70% identical to SEQ ID NO:2;

5 f) a sequence encoding an amino acid sequence that
is at least about 80% similar to SEQ ID NO:2;

g) a sequence encoding an amino acid sequence that
is at least about 40% similar to residues 1-76, 613-669 or
1144-1161 of SEQ ID NO:2; and

10 h) a sequence hybridizing at moderate stringency
to a sequence encoding residues 1-76, 613-669 or 1144-1161 of
SEQ ID NO:2.

15 25. A polypeptide produced by expression of the
nucleic acid sequence of claim 24.

26. Antibodies immunologically specific for the
polypeptide of claim 24.

20 27. An oligonucleotide between about 10 and about
100 nucleotides in length, which specifically hybridizes at
moderate stringency with a portion of the nucleic acid
molecule of claim 24.

25 28. A recombinant DNA molecule comprising the
nucleic acid molecule of claim 24, operably linked to a
vector for transforming cells.

30 29. A cell transformed with the recombinant DNA
molecule of claim 28.

30. The cell of claim 29, selected from the group consisting of bacterial cells, yeast cells and plant cells.

5 31. A transgenic plant regenerated from the cell
of claim 30.

32. An isolated plant p-glycoprotein, which is inducible upon exposure of the plant to NPPB.

10 33. The p-glycoprotein of claim 32, which confers upon a cell in which it is found resistance to Rhodamine 6G.

15 34. The p-glycoprotein of claim 33, which is preferentially produced in roots upon the exposure to the NPPB.

20 35. The p-glycoprotein of claim 34, from a plant selected from the group consisting of *Brassica napus* and *Arabidopsis thaliana*.

25 36. The p-glycoprotein of claim 35, having an amino acid sequence that selected from the group consisting of:

25 a) an amino acid sequence that is at least 80% similar to SEQ ID NO:2;

30 b) an amino acid sequence that is at least 70% identical to SEQ ID NO:2;

30 c) an amino acid sequence that is at least 40% similar to residues 1-76, 613-669 or 1144-1161 of SEQ ID NO:2; and

d) an amino acid sequence encoded by a nucleic acid sequence hybridizing at moderate stringency to a amino acid sequence encoding residues 1-76, 613-669 or 1144-1161 of SEQ ID NO:2.

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37. Antibodies immunologically specific for the p-glycoprotein of claim 32.

38 The antibodies of claim 35, that are
10 immunologically specific to residues 1-76, 613-669 or 1144-
1161 of SEQ ID NO:2.

39. A plant p-glycoprotein gene promoter which is
15 inducible by NPPB.

40. The plant p-glycoprotein gene promoter of
claim 39, that is part or all of residues 1-3429 of SEQ ID
NO:10.

20 41. A plant with reduced levels of *plPAC* protein.

42. The plant of claim 41, wherein the native *plPAC* gene
is mutated.

25 43. The plant of claim 42, wherein the *plPAC* gene
is mutated due to the insertion of a T-DNA.

44. A method for making the plant of claim 42,
wherein a population of mutated plants are screened using at
30 least one of SEQ ID NOS:11-14 as PCR primers.

45. The method of claim 44, wherein the population of plants is mutated by T-DNA insertion.